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PARAPSYCHOLOGY AND MAN¹

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An attempt is here made to introduce the new branch of investigation, parapsychology, and to consider what it may contribute to our understanding of the nature of man. After a short sketch of this field, an outline of its relation to the main divisions of natural science will follow. As a third step the bearing of the new field upon the larger human disciplines will be illustrated. Finally attention will be focused on the role of parapsychology in a unified study centering on man's nature, a Science of Man.

PARAPSYCHOLOGY

In 1927 a research program was begun in the Department of Psychology of Duke University under the sponsorship of Professor William McDougall, with the general aim of examining certain claims that man has powers that transcend his physical nature. Belief in the existence of such capacities was of course a very old one. They had, for example, been more or less implicitly assumed by most of the religions and magical systems. Rational support for this doctrine of a nonphysical element in man's nature had also been claimed in certain philosophical systems. The conventional sciences, on the other hand, confined as they are to sensory observations of physical phenomena, had not contributed anything definite to the support of this conception of the nature of man.

But even though the new program was committed to forthright

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search for possible nonphysical factors, it was nevertheless unreservedly restricted to the methodological principles of natural science; these of course would have to be adapted to the types of problem concerned, but it was assumed that the standards and canons of evidence already in use in the established sciences would be applied. Accordingly, it was a first requirement that the claims of exceptional powers to be investigated would have to be such as would lend themselves to controlled experimental procedures.

It was the claim of clairvoyant ability that proved to be the most suitable as a point of attack. This type of extrasensory perception (ESP) is an experience of knowledge of an object or objective event without sensory contact. An adequate test of this capacity would require that some reliable knowledge of the environment be obtained with all sensory mediation completely barred.

This type of test was comparatively simple and was easily conducted. As early as the 1880's the attempt had been made to adapt devices for acceptable testing procedures from current practices in the casinos; for example, ordinary playing cards could, when adequately concealed, serve as suitable targets for guessing tests of ESP of the clairvoyant type. Even the mathematics that had been developed for use in gambling proved suitable for estimating the extrachance significance of success in the card-guessing tests. Thus it was that this ancient belief in extrasensory powers of communication turned out to be ideally suited to the experimental laboratory. Not only could the ability to identify hidden cards be evaluated against the theory of chance coincidence, but any such performance could be carried out under conditions that completely excluded the entire range of the sense organs. Such was the testing for ESP which by this time has been under fairly continuous study for over 40 years.

The research program at Duke was not, however, strictly limited to the investigation of clairvoyance. On the basis of the test model used for that type of ESP a broader program of research developed which became identified as experimental parapsychology—one that in due course spread to other centers here and abroad. Special test procedures were developed on generally similar lines, mostly for use with other types of ESP such as precognition and telepathy. Later

they were developed, too, for the related ability involving extra-motor response, which came to be called psychokinesis or PK, the direct action of mind on an external physical process or object. In due course all these types of parapsychical or *psi* ability, as they came to be called, were confirmed, first at the Duke Laboratory and later in other centers as well. Not only was the fact of their occurrence established but their common properties were explored and lawful relations discovered that established certain general principles applicable to all known *psi* phenomena.

However, the primary aim of the research program was focused steadfastly on the clairvoyance tests. By 1934 these had produced results under controlled test conditions repeatedly that could not be attributed to any known sense. Extrasensory perception at that stage was stated in this limited way, implying only that the *known* senses had been excluded. But as the program advanced into still more discriminating experimental conditions it became clear that there was no possibility of a sensory explanation of any type. On the basis of the results even the idea that a stimulus might be involved, as is always the case with sensory experience, had to be abandoned. As it became clear that ESP did not depend on any kind of sense or stimulus the more basic question of whether an essential physical process was involved could be brought to a decision. The conclusion was reached that no type of physical intermediation known to science could have produced the significant results obtained.

It seemed therefore safe to say that the original question of the research program had been answered. This did not mean that it was answered beyond all argument or that there was any alternative explanation to take the place of the physical and sensory mediation that had been excluded. Rather, this was simply the first step in a scientific inquiry, a step which eliminated the more familiar types of principle associated with the exchange between a person and his environment. The extrasensory and extraphysical type of exchange that remained had been established as experimentally real.

Naturally this conclusion was not reached in a single bound; nor was it based upon a single type of evidence. Rather, it was the culmination of years of investigation and the combination of a va-

riety of types of evidence. The findings of the Duke Laboratory were confirmed at many other centers, but for that matter the work in parapsychology over the 35 years that have followed has yielded incidental confirmation too, since of necessity it has all depended on the same basic *psi* operations that were established in the 1930's.

The conclusion that a nonphysical mode of exchange had been demonstrated was based on all of the types of ESP (and supported by other *psi* experimentation as well), but the one research line in which it was most obvious and most easily understood was that of precognition. This type of ESP ability had been demonstrated by tests in which the subject attempted to identify the order of targets *as it would be at a future time*. Then targets were carefully randomized and results independently checked, so that the precognition test was an ideally controlled one. In fact it has now been extensively used in parapsychology partly on this account and has been adapted to a variety of techniques involving in some cases electronic test machines, computerized analysis of results, and other modernizations.

But the point of importance here is that obviously no physical principle can furnish a reasonable explanation of the significant results obtained in the many years of precognition experiments; it appears therefore that this mental operation that transcends space-time requires a nonphysical type of agency to account for the effects produced. This fact as a scientific inference can stand alone even while the investigations continue in search of an understanding of the process.

WHAT CAN WE MAKE OF IT?

At this point some cautious minds want to keep right on building larger and firmer structures of evidence for so radical a research finding that has so slowly been accepted. But fortunately, others, not incautiously either, want to investigate the connections this *psi* occurrence may have with other "departments" of nature. This too would have its reinforcement value since these interlocking discoveries would contribute to the rational structure of the science. In other words, while *psi* is partly established and defined by the discovery of what it is *not*—nonphysical, nonsensorimotor, noncon-

scious—it is not fully identified until its positive relations come into scientific view.

But there is still another reason to go on into these interrelations. *Psi* is difficult to capture; it is elusive and fugitive. It will likely become more controllable through studies of the psychology and biology of its operation. Such advances might pay off well in making it more successfully demonstrable and more rationally comprehensible.

Equally urgent, however, is the need to have the research adequately supported. This requires that some larger discipline appreciate the *psi* research field for its promise of usefulness and meaning; but increased knowledge and control of *psi* are necessary for that promise.

All this makes an almost perfect circle: (1) The basic *psi* research must be kept going. (2) This must, however, be broadened into related areas of science to improve control over the ability and to firm up its rationale; but (3) this "interdepartmental" linkage requires strong financing for the more elaborate training and apparatus it needs. (4) This calls for a stage of assured application to justify the necessary support. (1) This step needs increased basic research (2) to improve control over the ability, and so on around again.

However, this circularity disappears at once if we take the point of view, not of parapsychology itself, but of the study of man as the larger unit to which *psi* belongs. This orientation leads as a logical next step to the question of how *psi* relates to the knowledge of nature man already knows through his sciences of physics, biology, and psychology—to take only broad divisions. In the section to follow, a general answer to this question will be reviewed in the tentative way of a "progress report."

RELATION TO THE MAIN DIVISIONS OF SCIENCE

The relation of parapsychology to the main divisions of natural science is important because these connections are themselves part of the meaning of parapsychology for man and are even essential to the conception of parapsychology itself. In fact most of what we know about this field is in terms of its relations to other sciences. The

investigator of *psi* must know something of its relation to physics in order to know *psi* itself; how much it belongs to psychology and how it differs are part of its very nature as a field; where it stands in the biological system is indeed fundamental parapsychology. All this is only to say we do not know any branch of science until we know its boundaries, and boundaries are themselves lines of inter-relationships.

Fortunately there is no problem over the distinctiveness of the field of parapsychology. It has in fact a more clearly definable boundary line than many of the more established sciences. It deals only with *psi* phenomena and these are neatly identifiable as extra-sensorimotor exchanges between persons and environment. But because of the nonphysical nature of these extrasensory and "extra-motor" interactions, they afford what is at present one of the most definite natural lines of division in the known natural order. This difference has been so impressive as to have led in the past to the categories of "miraculous" and "supernatural" in describing them (although not of course in parapsychology).

Physics

Parapsychology's first confrontation is logically with physics. As I have said, if *psi* phenomena had lent themselves to physical explanation they would not be *psi* phenomena—they would have been one of the many branches of the physical sciences. Even if they were conceivably to be accounted for by some dimly understood physical principle, some members of the vast professional population of the physical sciences today would have been vigorously pursuing such marginal prospects of extending present boundary lines of that field. But, as I have indicated, it has been possible to bring the matter to definitive experimental solution and it can therefore be regarded as decided, at least for the present stage of science.

But to find that *psi* is nonphysical does not entirely remove the process from relevance and interest to physics. The very act of demonstrating that an unknown type of influence is represented in *psi* exchange is dependent upon the physical system involved in the test and in the operation of the subject himself who takes it. This means of course that whatever *psi* is, it interoperates with the nat-

ural physical order. This necessarily implies the existence of a more general *common principle* as a basis of interoperation. Within the physical world itself, through which our scientific information is all intermediated, we know what is going on through the observation of physical events and through an inferential system built on that. Then, too, the instrumentation that has extended the range of the senses, of reasoning, and of memory has all been assumed to derive its causality from energetic systems. So long as only physical energetics was known there was thus no need to conceive of energetics as not necessarily *always* physical.

Now, however, we need to infer another kind of influence or energy that produces effects that are observable either directly or indirectly. The logic of natural science leads to the inference that a nonphysical influence is present that produces energetic effects. It becomes necessary therefore to infer from the results on record that an unknown energy is operating in the *psi* process. Since we do not know much yet about this hypothetical *psi* energy it is not a very big step to assume it. The concept will naturally become more realistic as we learn more about what the *psi* function is and can do, learn to control it better, and relate it to the rest of the natural order.

Even now, however, physics cannot be regarded as the logically inclusive term it so long has been assumed to be. It is no longer the basis of *all* natural science and of the *entire* system of reality in the universe. In other words, we can now say the universe is more than physical—and that this is an experimental, not a merely speculative conclusion. It is therefore not just a matter of viewpoint, although it will require a fundamental shift in some categories. For example, energetics has been considered a branch of physics; now it will have to be the other way around, with physics subordinate to energetics, since a nonphysical mode of causality is required in *psi* communication.

A few physicists at least are already interested in this energetic interconversion between *psi* and physical energy. Like some of the familiar energies, *psi* can only be detected through conversion to directly registrable readings of another energetic form. For example, it is only as some observable physical process can be influenced

by PK that this type of *psi* function can be manifested and measured. But this transfer, like the types of ESP too, is now experimentally manageable, and it opens a new frontier for the research physicist. He can, for instance, do something that has hitherto been considered impossible: he can react experimentally to a future event and he can in some degree exert intelligent influence on bodies without contact and with no known physical field to intermediate. But in all this the researcher in physics would not necessarily be going entirely out of his own field to investigate parapsychological interaction. Physics is not just the study of inanimate bodies as an older academic viewpoint may have had it. In a modified way it is biophysics, psychophysics, and of course *psi*-physics too.

One can look back through the history of physics and see that such changes have always come hard, but they eventually occur. This "expanding" universe we know about today is not the same one Einstein was thinking about, any more than his was like Newton's. "If it (ESP) does not relate to space-time it must be wrong," Einstein was quoted as having said on his first reaction to the early report on the ESP research. To be sure, this only meant that it "must be wrong" for the prevailing conception of a strictly physical universe, which he like his generation had been educated to accept as the entirety of nature. Now, with ESP established, the concept of the universality of physics has to be shelved. This should be a great relief, since that concept has been a heavy burden on the rational mind of man for a century or more, even persuading many that such a "mind" was either unreal or impotent.

Biology

Since *psi* communication is known only in connection with living beings, parapsychology logically belongs to biology. In view of what is known today about the distribution of spontaneous cases suggesting *psi* capacity in species other than man, one might suppose that parapsychology could well enough have had its origin in observations of the behavior of lower animals. Apparently instances of such unusual behavior have always been current, but biologists like psychologists have given them no attention. The challenge such

cases offered to physical explanation has been as much of a deterrent consideration in biology as in psychology.

However, once *psi* ability was found to be widespread in the human species, attention was directed to the reports of similar ability in animals, and as with man it was the spontaneous happenings that served as the starting point. The most familiar animal performance that seemed in some cases extrasensory is that of long-distance homing. Still more suggestive of *psi* ability, though less frequent, are the cases of what is called *psi-trailing*, in which a pet animal finds its way to a new location after it has been left behind at the time the family moves. With long distances involved and with good identification of the animal, some of these cases can be impressive. Also, in many instances the reaction of pet animals, especially dogs, to the death or serious illness of a human companion, sometimes many miles away, has strongly suggested ESP. Sometimes, too, the apparent anticipation of impending danger has been well indicated by appropriate behavior.

Such cases have led to experimental study of ESP in a few of the species more convenient to work with (*e.g.*, dogs, cats, pigeons, and mice) and the confirmatory evidence is amply adequate to warrant the growing interest in this branch. One university laboratory of zoology has in recent years launched a program of research and has reported (albeit under assumed names) evidence of ESP in mice, obtained in fully automated testing.

While the work on *psi* in animals (*anpsi*) is being continued it has already advanced far enough to justify consideration of some of its consequences. In the main the *anpsi* results fit in well with the larger background of better-established findings from the human species. Taken together, there is enough coverage for some useful exploratory generalization regarding *psi* and the science of life.

For example, one immediately suspects that the point of origin of *psi* must have been far back in evolutionary history, long before man himself arrived. It follows that there is a need for a more comparative study of *psi* in different species, to see whether there has been progress or decline of *psi* ability with evolution. In the background of such a search for evidence of *psi* in different species

there will always be the pertinent question as to what the value of this ability has been to biological survival.

The practically oriented *psi* worker will turn hopefully to these comparative studies with the desire of finding a species suited to selective breeding and other genetic studies of the *psi* function, aiming eventually at the discovery of an ideal experimental "guinea pig."

Limited though *psi* research has mainly been in the past to the human species, certain biological generalities have emerged that afford a tentative baseline for interspecies comparisons. For instance, no relation of *psi* ability to age has thus far been noted, no true difference between the sexes—in fact, no fundamental difference between any biological group. Even though these observations have been incidental and not yet based upon designed studies, they have considerable tentative value. Also some importance can be attached to what has *not* been found. For example, there has been no indication of a localization of exchange, no port of entry or exit for *psi* interaction to compare to the senses and muscles. There has been no suggestion of special localization of the essential *psi* process itself within the nervous system. This fact along with the non-physical character of the *psi* operation raises the question whether there will ever be found a physical center of the kind involved in the sensorimotor exchange. This is an area in which comparative animal studies might introduce some new ideas on possible somatic correlates of *psi* (as well as of course psychological correlates).

While it is yet too early to entertain more than tentative judgments about the general biology of *psi*, the elementary insights already acquired seem to bear on some of the major unsolved problems in biology. Consider first that parapsychology introduces biology to a new energetic influence to add to its basic principles in the study of the nature of life. Already there are enough experimental indications to justify relating the *psi* factor to the forces involved in growth, in health, and in a range of psychosomatic relations. At least it should be considered as a matter for research. It should not therefore be surprising that in view of the vast amount of PK research on moving (inanimate) targets the few controlled studies of its effect on *living* tissues have given positive results (mostly but

not entirely on plants). This of course brings us to the frontiers of medicine, and that discipline for all its restrictive reticence regarding the unorthodox is rich in its backlog of fascinatingly baffling cases, many of which seem undoubtedly to belong to parapsychology. Because of the great human importance of this medical frontier of biology it seems likely that it will serve as the main impetus for the future study of "*psi*-biology." In fact medical parapsychology is likely to lead the way for this new field much as medical psychology and the branches of medical biology have done for the basic sciences in the past.

A few of the main types of cases will illustrate what medicine has long been storing away in its cupboards of unorthodox cases. One thinks of the many puzzling twin cases (that so rarely get reported). For example, a pair of twin schizophrenics, separated, locked in different hospital wards, spontaneously died at the same hour the night following their forced separation. The autopsy revealed no cause of death. Another case type is that of mothers who experience very realistic birth pains simultaneously with their daughter's (who in one case was on another continent) as the latter was actually giving birth to a baby. A third type: a woman about to have a baby told the doctor correctly it would have only one hand, because its father lost a hand in a mine accident. A Duke student dreamed her soldier-fiancé in Italy had white hair and wrote him. The night he landed on Anzio Beach his hair did turn white. The dermatologist of course said it was impossible. But new sciences rather commonly germinate from the "impossibles" of the old—if they are reported.

For the present the main impact of parapsychology upon biology (and it will likely be most effective with medical biology) is likely to be in giving encouragement to the reporting of the puzzling cases that are encountered in practice. The parapsychologist is now a "specialist" (at least in research) to whom these odd problems may be referred. As it is, he is being consulted frequently by a few practitioners, mainly psychiatrists, who are led to suspect a *psi* element in the patient's problem.

Meanwhile parapsychology will keep the initiative it has taken in following up such opportunities and helping to bridge the gap of knowledge it has with the biological system of nature. It seems likely

at present that it will make its best contact with biology over the pile of problems that might be called "parapsychosomatic." These are cases that combine what seems like a mentally induced illness based on a telepathic response to a loved one's trouble (like the birth-pain case mentioned above). The research into this area can best be started by the *psi* worker but it should lead to a convergence of several scientific specialities, and this is part of its advantage. The psychiatrist may be more ready to assist than others, and he might be expected to take the lead in meeting the challenge these cases present.

Psychology

It is fairly obvious that parapsychology has more in common with the field of psychology than with any other branch of science. By most definitions of psychology it would even have to be considered a subdivision. However, the field of psychology, like most of the others, developed under conditions in which practical requirements for teaching within the university placed limits on what was acceptable. Psychology (like the field of biology to which it technically belongs) had to meet academic rules and standards largely determined by the more easily operated physical sciences. The standards of demonstration, interpretation, and publication tended to follow as closely as possible the better-established physical branches of inquiry. Even the universe came to be regarded by academic science as physical, and good scientists sought only for physical principles of explanation. Whatever else there may have been in the sciences of biology and psychology that did not lend itself to these criteria of intellectual status in the academic marketplace was just not brought forward and developed. Natural selection operates among ideas too.

It is understandable, then, that because it has so much in common with psychology, parapsychology constituted a threat to the university psychologist who was striving to keep his field as much like the prevailing academic style as he could. Most of the friction between these fields derived from attempts to push parapsychology prematurely into psychology departments. The same thing would have happened to psychology itself if it had been originally forced

into departments of biology instead of, as it was, into those of philosophy and education.

As a matter of fact the only line that marks parapsychology off from the rest of the general field is the extrasensorimotor character of its operation. This seems at present like a very sharp line of differentiation, but that impression may well be the result of our limited knowledge of the actual borderline of the sensorimotor. (Most boundary lines in science have tended to dim with growing knowledge.)

The most distinctive finding of parapsychology as things now appear is the nonphysicality of its phenomena. These are the only occurrences known to the psychological sciences that have lent themselves to a crucial test of this hypothesis. Many people have thought there is or might be something nonphysical about the human mind, even apart from religious theories; but obtaining scientific proof on the point is another matter. Psychologists of certain schools have conceived of mind and body as two different orders of reality. Perhaps the most explicit on this matter was William McDougall, as represented in his *Body and Mind* in 1911. He felt he was supported in his position by the evidence of parapsychology even as it was then. A more conclusive statement of the role of parapsychology in establishing the reality of mind came out over 50 years later from another British psychologist, John Beloff, in his book *The Existence of Mind*.

By this time it seems safe to say that the issue has been drawn by parapsychology and settled on an adequately scientific basis. When in due course psychology becomes free enough in its academic position to take an independent stand it will have a sound empirical basis for a claim to a real and independent territory of its own. So long as it is limiting its subject matter to operations that do not defy physical explanation it is in actual practice just a subdivision of the physical sciences. Now, however, it has title to the *psi* research findings that, small as they are as yet, stand clear of subordination to physical explanation. Probably this gift is at first about as welcome as something the cat dragged in; but its ultimate importance is likely to be proportional to its initial nuisance value.

Far more immediately important to psychology however is what

psi adds to its exploratory coverage. In the past a psychologist has been limited to his own self-imposed mechanistic thinking. Watson and Lashley, for example, on going out to study the migratory flight of the sooty tern, quite logically stated that they were seeking explanations within the range of the sensory functions of the birds. If the birds should have been using ESP the observers would have overlooked it. Parapsychology on the other hand has exemplified the scientific procedure of trying to solve the problem, whatever the answer turns out to be. It is searching for any reliably demonstrable explanation of a phenomenon that is actually there in nature. It has, without previous commitment, without any hand-tying assumptions, demonstrated that the methods of science are dependable without such confining restrictions as a behaviorist or physicalist conception of science might impose.

What seems likely to have the greatest long-term consequence for psychology is the fact that parapsychology gives a degree of causal potentiality to the mental system to which *psi* belongs. As I have said, science in the past has invariably applied the term energetic to demonstrated causality, and now the concept of a mental energy is available for the use of the psychologist and with a more authentic basis today than it has ever had in any similar usage in the past. While it is true the concept that the mind has a real force that is not physical will seem to many a very revolutionary change so long as the habit of equating energetics to physics stands in the way, the results of *psi* research must eventually be reckoned with.

The body-mind problem may be regarded as partly solved by the fact of the nonphysical nature of *psi*. This rules out at once certain hypotheses and brings causal interaction to a state of confirmation. What seems most reasonable to suggest is that this introduces a useful experimental approach and opens up a new research area centering around the greatest intellectual gap in modern science, the thought-brain interaction. The establishment of mental causality and the techniques of parapsychology should give the sciences that are involved an effective new grasp of this problem area.

The concept of mental causality as a natural influence to be worked with and engineered is one the world of human affairs is awaiting, coasting as it has been on outworn belief systems that have

lost their potency. Now, in education, psychotherapy, ethics, law, and in many other areas of urgent importance today, psychology can be prepared to take a new approach. It can now be confident that there is a determinacy that is potential in the human mind, which was not developed merely to influence the fall of dice in a PK test or make predictions across barriers of space-time in ESP experiments. Anything lawful enough to be repeatedly demonstrated under test conditions must be supposed to be operative in nature, and it is the research task of the larger field to explore the range, the capacity, the full possibility of the development of this power peculiar to the mind itself.

There is no actual conflict between the *psi* results and psychology as a science. There is only the addition of a wider range of ability—an extremely wide range indeed in its full potential—the extra-sensorimotor, with which parapsychology deals. This is in one respect just another zone of communication, even though it is based on a different underlying principle. Furthermore, although psychology will now in due course become psychocentric again, this will not lessen the achievements of its more cerebrocentric (and physicalistic) phase; but it will extend its perspective of exploration and permit a much wider range of problems to be handled. When psychology becomes accommodated to the findings of parapsychology it will neither be justifiable to restrict inquiry to sensorimotor action alone nor confine explanation to physical principles. With such an expanded franchise this most urgently needed of all the divisions of science may realize more of its great potential for the understanding and control of the planet's most troublesome species.

RELATION TO RELIGION

It follows that if parapsychology has contributed evidence of a nonphysical principle in man's nature it will in consequence of this fact alone affect all those many social institutions and disciplines which depend upon a concept of man. This is not to overlook the fact that we know so little as yet about *psi* itself that it will be a long time before the nature and extent of these consequences will become known. But even on the basis of what we know already about it, the mere knowledge of the occurrence of *psi* will make a

difference in the concept of what a man is and therefore in what his social institutions will be.

If this were not so obviously a logical consequence it would be necessary to go over the whole range of the major human institutions and review one by one the relevance of parapsychology for each particular organization. Of course they will not all be equally involved, and there will be differences in receptivity to the findings of *psi* research and in the readiness to adopt them. In terms of need one thinks first of such systems as mental health, education, the ethical institutions, and medicine. These to a great extent are waiting for a better validated theory of man's nature. Without it they are caught in the uncertain transition from one unvalidated belief system to another.

On this occasion, however, I can deal with only one of these larger, social disciplines as an example of what parapsychology will conceivably mean to human institutions as a class. And for this purpose I have chosen religion. It will better serve the purpose because it is closer to the field of parapsychology than any other major social institution and because it is more transparently dependent upon a theory of man. The truism that the way we treat people depends upon what we think they are is particularly manifest in religion.

What now has parapsychology really to do with religion? It is rather like the relation of biology to medicine or of physics to engineering, except that the relation in this case is still but little recognized. As a matter of fact parapsychology has developed quite independently of professional religious influence; and even today there is no official relationship or recognition existing between the two fields.

Therefore all such relationships as I shall be pointing out are rather abstract; for example, parapsychology in its refutation of the philosophy of materialism has a very obvious bearing on religion; materialism has probably been religion's greatest enemy. Moreover, the discovery of *psi* as a nonphysical property of man is science's first positive contribution to religion. In the long warfare between science and religion since the 16th century nothing like this ever happened before. Yet this contribution has never thus far even been

recognized by any organized religion. For that matter no great point has been made of it in parapsychology either; as I have said, there has been little exchange between parapsychology and religion.

However, a curious interrelationship has been found: what parapsychology had discovered and labeled *psi* communication in all its types, forms, and conditions has turned out to have a remarkable parallel to the whole communication system of religion—that is, to the modalities of exchange that have been assumed to occur between the human and the divine orders. Or, putting it conversely, men have been assuming in their religious doctrines a pattern of communication between men and their deities that coincides almost exactly with the types of exchange between a person and his environment that have been developed by parapsychology. In still other words, had the founders of the religions been working with the 34-volume set of the *Journal of Parapsychology*, or had the workers in parapsychology been guided by the scriptures of the great religions, the parallelism of the two systems of communication could hardly have been more nearly perfect. This is the more remarkable in view of the independence of the two disciplines from each other throughout.

A brief outline will indicate this congruency of patterns. Parapsychology has revealed the existence of an extrasensorimotor order of exchange between a person and his world. On the extrasensory side the types of phenomena verified are the clairvoyant, telepathic, and precognitive. On the other are the psychokinetic; the PK effect has been demonstrated first on moving objects, second (to a considerable extent) on living targets, and it is being investigated on a third "state of matter," static inanimate targets.

When we turn now to the types of communication assumed in a (generalized) religious system we find they are identical in principle, even though not as sharply distinguished and exemplified. Beginning with the powers attributed to divinity the terms omniscience and omnipotence are essentially equivalent to extrasensory perception and psychokinesis, allowing an assumption of perfection that of course goes with deification. On the human side of the religious exchange one sees at once the similarity of precognition to prophecy, of telepathy to prayer, and of clairvoyance to revelation, seership,

and related mystical experience. On the physical side of the exchange the types of psychokinetic interaction are well exemplified in the varieties of physical manifestation furnished by the miracles.

This similarity is quite as remarkable when it comes to the states or forms of experience in which communication with the divine order occurs. In *psi* research these have been found most commonly to be dreams, hallucinations, intuitions, and unexplainable physical manifestations. These are the standard classifications of the mode of experience of spontaneous *psi* occurrences. But they also serve equally well as the classifications of the way in which spontaneous religious manifestations are experienced, the forms in which messages are believed to be received from the divine order. The parallel continues on into the type of practices that have developed along with the religions, the trances and other special dissociated states induced in preparation for the religious experience. The point of similarity that emerges here is that just as with *psi* ability today, so for the exercise of religious communication, there was little conscious control possible. The capacity was (and is) elusive and fugitive. It is a delicate mode of exchange.

What emerges from this study is that we have a modern confirmation of patterns of communication that have grown up through the ages in the systems of the various religions. Whatever else may be said about it, it would appear that the founders of the various major religions were to a remarkable extent following a pattern of reality of human experience that is now today independently substantiated as having a valid basis. The essential similarity of these basic patterns extending throughout the various theological doctrines adds generality to the picture as well.

It is not necessary to elaborate here the many new roads to further scholarship opened by this isomorphic relationship of *psi* communication to religious communication. We can leave this further interest to what is on the way to becoming a new course of study and research—the Parapsychology of Religion.

What may be most worth suggesting about this relationship of parapsychology and religion is that it would seem to be comparable to the stage in the history of those disciplines in which science has already gained a foothold. The most obvious illustration is the ref-

ormation of medicine with the discovery of the circulation of the blood, or perhaps more clearly with the germ theory of disease. It would appear that parapsychology could be expected now with its contribution to the understanding of religious communication to have exemplified the relationship of a basic science to a field of application—a relationship in the making. What this will mean to religion will have to be left to the future, but it should mean something to have discovered that men themselves have those very powers that they once attributed to divinity and which they believed (as they once did all natural principles) to belong to the supernatural. As we all know, most of the things men are doing for themselves today are being done because they discovered the natural principles which their ancestors had deified. It looks very much as if the world may have reached the stage at which people must learn to do a great deal more for their own personal and social guidance that they have hitherto left to the supernatural.

THE SCIENCE OF MAN

There is a third relationship of parapsychology to be considered. I have discussed its relation to the divisions of natural science and to the larger human disciplines, as exemplified in religion. But neither of these relations points up what is, I think, its peculiarly relevant bearing. For this it needs more centralized involvement, the more integrated setting identified with the focus of study of the nature of man. For one thing, it is likely to be a long time before the sciences allow themselves to be very much awakened to the significance of *psi* for their particular "departments" of the universe. They all have heavy preoccupations of their own.

And as for the greater human disciplines, while it does appear that the world is being rudely shaken out of its complacency concerning its social institutions and value systems, I do not anticipate any beating of paths to the doorsteps of the parapsychology laboratories to get help from them on remodeling a theory of man.

Rather, such a message as parapsychology has acquired is novel and different enough that it needs its own launching organization (just as it does its own research centers) for its proper exploitation. Rather than losing itself in adapting to other essentially dissimilar

areas, it needs to draw into and around itself the buttressing organization of related interests needed to make its potential more realizable and manifest.

By far the most revolutionary consequence of the findings of parapsychology are in what they contribute to the understanding of man's nature. But taken alone and taken at this stage this contribution is and may long remain a rather impotent germ, whatever its ultimate potential. It needs, therefore, to be made part of a composite science devoted to the understanding of the distinctive nature of man. Such a science of man cannot be merely a parapsychological one nor can it even be completely psychological, even in the broadest conception of that overlimited term. Rather, it will have to be biological too in so many features that it would be difficult to characterize the range of the sciences of life involved as this convergent science grows to maturity. But for that matter it would be equally impossible to conceive of the science of total man as not being firmly structured into a close interrelation with the framework of physical science, and with a broader science of energetics that embodies all that scholarship can encompass. For "man is the measure of all things."

Such a design for the study of man as a person needs to begin with parapsychology only because it is farthest out; only this will insure that the new branch will not be lost under the pressures of accommodation to the stronger fields that are so well reinforced with the sinews of research. With parapsychology entrenched as a fundamental branch of the research program it will have the necessary advantage of orientation. Here at one place in the world of research will man's nature be explored as fully as possible in all those relations that harmoniously integrate in a scientifically discoverable way. There will be no blocking limitations arising where *psi* (or whatever else may be discovered) has to interrelate with branches that are dominated by biased assumptions.

It does not really matter that at present parapsychology seems to represent a small image placed on a high pedestal. If mankind in his various systems of religion deified these curious *psi* aspects of human personality as he did, it is not inconceivable that science will make more of the matter in due course than even the imagina-

tive founders of the religions did, just as they have made more out of the principle of the uncertain capricious agency that once was called Jove's thunderbolt. At least, after all the other things men have done and have created, it would now seem timely to launch a major research program aimed strictly at man himself, with a starting focus on the powers the ancients in all their cultures most exalted.

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